

**WHAT IS CLAIMED IS :**

1. A front-end conditioning structure according to the invention has a diplexer connected between, on the one hand, a first pole of a probe and a first pole of a pulse generator and, on the other hand, the input of a preamplifier, this diplexer being of the type comprising a diode bridge having:

- 5      - one vertex connected by a first resistor to a first pole of a positive voltage source,
- the opposite vertex connected by a second resistor to a first pole of a negative voltage source,
- a third vertex of this bridge receiving, via a capacitor and a resistor, the input signals to be transmitted or attenuated depending on their origin,
- 10     - the fourth vertex of this bridge being ground-connected by a capacitor in series with a parallel circuit comprising a resistor and two antiparallel-connected diodes,
- 15     - the second pole of each of said voltage sources, the pulse generator and the probe being ground-connected,

wherein, in the diplexer, a diode is parallel-connected to each resistor connecting one of the first two vertices of the bridge to a voltage source, these two diodes being mounted in the direction of conduction from the 20 negative voltage source to the positive voltage source  
and wherein the first two vertices of the bridge are connected by a resistor.

2. A front-end conditioning structure according to claim 1, comprising a multiplexer connected between, on the one hand, the pulse generator and, on the other hand, the probe and the diplexer..

- 25     3. A front-end conditioning structure according to claim 2, wherein between an input terminal and an intermediate terminal, the multiplexer comprises two parallel arms each comprising the drain-source path of a transistor in series between two diodes, the gate of each of the transistors being connected by a resistor to a voltage source and by a capacitor to its source, the diodes of one of the arms being antiparallel-connected with respect to the diodes of the other arm, the intermediate terminal being ground-connected by a parallel circuit comprising, in one arm, a capacitor and, in the other arm, two anti-parallel-connected diodes in series with a

capacitor, the common point of these two diodes and of the transistor being the output of the multiplexer.

4. A front-end conditioning structure according to claim 3, wherein the transistors are of the VMOS type.